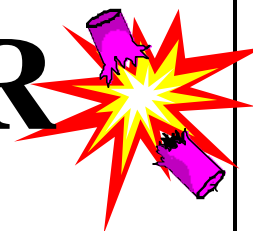


THE NORTHLAND SKY WATCHER



*For National Weather Service weather watchers of
northeastern Minnesota and northwestern Wisconsin*

Hams Yak It Up for the NWS

Take a group of people who like to talk, have an excellent communication system, a yen for weather, and a volunteering spirit and what do you have? The ham radio operators who are Skywarn spotters for the National Weather Service's Skywarn Ham Network!

While ham groups have been an integral part of the NWS' warning program for years, the Skywarn Ham Network was officially formed in 1995 to streamline severe weather reports coming from the field to the NWS. The network consists of ham groups from counties across the Northland who, with their system of transmitter towers, tie into the system in Duluth. The reports are received by ham responders stationed at the NWS office. These responders are net controllers and serve two purposes- they relay important severe weather



Members of the Skywarn Ham Network who met in March for the annual spring meeting are, from left to right: Cletus Makowski, Duluth, Karen Makowski, Duluth, Blake Rickbeil, Grand Rapids, Chuck Corwin, Cohasset, Jerry Van Der Vort, Virginia, Dick Bodine, Duluth, Doug Nelson, Duluth, John Lindberg, Solon Springs, Jeff Homuth, Hayward, Tim Thomas, Itasca County Sheriff Dept., Ed Zaspel, Hayward, John McGaver, Hayward, and Wes Jones, Shell Lake.

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reports to the NWS warning staff, and give spotters in the field information on the storm situation. The NWS first responders are a select group of about a dozen specially trained hams from the Duluth/Superior area able to come into the office on short notice. Skywarn ham networks are activated anytime day or night, and each time a group is activated, first responders are needed to intercept the reports at the NWS office. Last year, hams were called out to the NWS 24 times.

See "Hams", next page

"Hams", continued

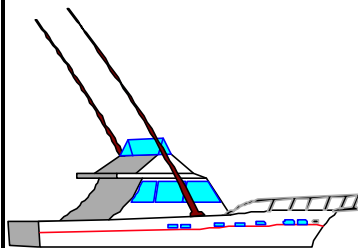
When the National Weather Service alerts these Skywarn ham groups of impending storms, they spring into action. Communication systems operated by the ham groups are cranked up, members of the groups are activated to staff their posts, and in some counties, emergency operations centers (EOC's) are staffed. In Itasca County, spotters are dispatched to pre-determined good viewing points on mine dumps.

All spotters play a vital role in the NWS's warning program. Because of their communication systems, they are able to communicate with the NWS when the phone lines go down during storms. We have used them not only during severe summer storms, but also for snow and ice storms.

So to all the Skywarn Ham spotters- Thank you!



A New Kind Of Spotter Partners with the NWS




The National Weather Service (NWS) in Duluth has enlisted new observers in a non-traditional location - on Lake Superior! These new observers are charter fishing boat captains who are concerned about the quality of our weather forecasts for the near shore waters of western Lake Superior.

Our introduction to the charter captains began when a member of the North Shore Charter Association visited our booth at the Duluth Sport, Boat, and Travel show in February. From him, we learned that the charter captains were not pleased with many of our forecasts. When we explained that one of the problems we faced with forecasting for Lake Superior was the sparse wind and wave data for LS, he was eager to help out. Two meetings with the association sealed our partnership.

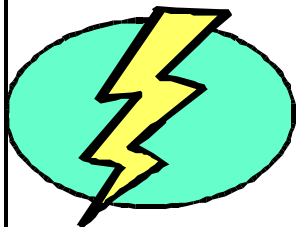
Ten volunteers from the association have been provided with anemometers to provide us with wind and wave conditions on the big lake. Using a grid map developed by the MN DNR, they are able to tell us their location when they call in with their observations of winds and waves. We use this information to fine-tune our forecasts. We are also archiving the information for future studies to help improve our forecasts for Lake Superior.

As of this writing, we have already received several reports. We heartily welcome the charter captains as members of the NWS Duluth observing team!

-Gary Austin, Science and Operations Officer



Another Banner Year for SKYWARN!



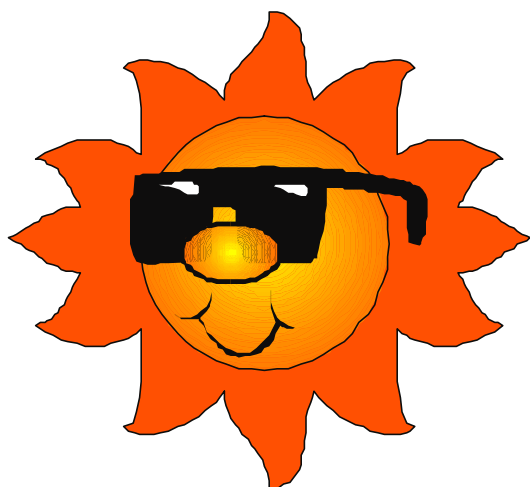
Our SKYWARN trainers were busy hitting the Northland's roads once again this spring. The first class was held in late February, with the last class held in early May. The training was a big success, with close to 600 people trained in 22 communities across the Northland.

Each year we travel to locations in nearly every county in northeastern Minnesota and northwestern Wisconsin, giving severe weather training classes to volunteers interested in being official observers for the National Weather Service. Even though we have an amazing radar at our office, it is no match for the human eye when severe weather is occurring. Our radar can determine, at times, if circulation exists within a thunderstorm. It cannot tell if there is an actual tornado reaching the ground.

Our volunteers know that with their reports, they can help to save the lives of friends, neighbors and relatives in their town, or the next town in line to receive the storms.

Thanks again to our wonderful group of severe weather spotters!

- Dean Packingham, forecaster



**Summer officially begins on June 21,
at 2:49 p.m.**

It's a new baby girl for Carol and Jim Christenson, both staff members of the Duluth weather office. Carla Ann was born on March 16th. They have another daughter, Anna-Marie, age 9, who will soon learn how to change diapers! Carol, who has been on leave, will be back to work in mid July.

Ask the Experts

Q What is heat lightning?

A Since it is often observed in the distance on summer evenings with clear skies overhead, the popular notion is that "heat" lightning is caused by hot and humid conditions, but this is not the case.

What is called "heat" lightning is ordinary lightning produced by thunderstorms too distant to be seen on a dark night or for the thunder to be heard. (Lightning produces thunder by instantly superheating the surrounding air, which in turn, creates a shock wave that we hear as thunder.) While heat and humidity can feed a thunderstorm, they cannot by themselves cause lightning.

Intervening dust and air molecules can cause the flash to appear orange to a distant observer, and because of the distance, the observer can often see the entire storm cloud illuminated by the orange glow, which makes it pretty to watch. So, you see "heat" lightning this summer, you will know that someone is experiencing a thunderstorm, and if you see it off to the west, you could be experiencing that storm before the night is over.

- Ed Flenz, forecaster



Two of our staff members are leaving for other duties. Both have been here in Duluth for about four years and have become valued co-workers and close friends. They will be greatly missed.

Glenn Nielsen left around Memorial Day for the weather office in Aberdeen, SD. Glenn was one of our more experienced hydrometeorological technicians and manager of our Cooperative Observer Program. Many of our readers may have met him during one of his many field visits or talked to him on the phone. We wish Glenn well in the "land-of-no-trees". His coop program duties will be taken over (at least for the time being) by Bill Carroll.

Gary Austin, our Science and Operations Officer (SOO), has been promoted to the head job at a neighboring NWS office (also known as "Packer Land"). Gary will leave around the Fourth of July to become the Meteorologist in Charge (MIC) of the Green Bay office. We wish him all the luck in the world as he takes on greatly increased responsibilities. We'll be coordinating regularly with Gary and his new staff as we send various types of weather in his direction.

CO-OP CORNER

After spending 4 years in Duluth and 3 years as cooperative program manager, it's time to move on. By the time you read this, I will have transferred to Aberdeen, SD (most of you know how much I like pine trees). Bill Carroll will be taking over and Dan Markee will be coming to Duluth from Bismark, ND. If you need assistance or have any questions call Bill or Dan. Thank you for all your help. - Glenn



Awards

Three length of service awards were presented this spring. Gladys Johnson of Drummond, WI received her 20 year award. In Wales, MN (rural Two Harbors) Andy Haugen received his 20 year award, and in Hayward, WI Larry Glodoski received a 15 year award. Thank you for a job well done.



Andy Haugen accepts his 20 year award from NWS official, Bill Carroll.



NWS official Bill Carroll presents Larry Glodoski with a 15 year length of service award.

Extra!

New equipment is expected to begin arriving this fall. Upgrades will be made to the MMTS (max/min temperature system) and the F/P (Fisher Porter punch tape) rain gage. The MMTS will be wireless and be able to store data for 30 days or more, including midnight to midnight temperatures. The Fisher Porter rain gage will have the punch tape mechanism replaced with a data logger and possibly have telemetry included, which would allow for real-time data access.

The downside is that it will probably be a few years before all stations are upgraded. We will keep you posted on the progress of this upgrade.

The *Northland Sky Watcher* is a quarterly newsletter published by the National Weather Service Office in Duluth, MN for our weather spotters and observers. We welcome your questions and comments. We can be reached by:

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